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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/821,723	Applicant(s) HAMPDEN-SMITH ET AL.	
	Examiner George P Wyszomierski	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-120 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claim Interpretation

1. In the response filed July 26, 2004, Applicant discusses at length the meaning of the terms "real-time basis" and "continuous". Applicant suggests that the Examiner's treatment of these terms indicates that the Examiner may have considered the claims indefinite under 35 USC 112 due to the presence of these terms. Such is not the case. The Examiner does not consider these terms indefinite, but does consider them broad enough to encompass the processes as disclosed in the applied prior art. Further, the Examiner accepts Applicant's definition of these terms as set forth on page 19 of the July 26 response.

2. Claims 1-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claim 1 recites forming reacted precursor particles "in a dispersed state", and it is unclear what substance the particles would be dispersed in, e.g. in some element of the precursor or in the atmosphere of the reactor.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 31, 40, 41, 44, and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Gupta et al. (U.S. Patent 6,620,351).

Gupta discloses making particles of a desired substance (e.g. medicaments) by applying a dispersion including at least two or more materials which react on a surface to form the desired substance. A reactor condition (e.g. vibration of the surface) can be varied so as to produce a differential condition in the final products, such as a difference in size or agglomeration of the particles, and this differential condition can be measured. Thus, all aspects of the claimed invention are held to be fully disclosed by Gupta et al.

5. Claims 1-5, 7-22, 31, 32, 34-42, 44, 46, 64-67, 69-84, 93-95, and 97-112 are rejected under 35 U.S.C. 102(b) as being anticipated by Schultz et al. (U.S. Patent 5,985,356).

Schultz discloses a process which includes depositing a plurality of reacted materials upon specific regions of a substrate and analyzing various properties of the deposited materials. The materials may be a plurality of materials of different compositions. As to the "dispersed" limitation of claim 1 as amended, the materials made in the Schultz process would be dispersed within some larger substance, i.e. this limitation as presently claimed does not define any specific distinction between the prior art and the claimed invention. Specific disclosure of various aspects of the claimed invention can be found in the prior art as follows:

- a) Claims 3, 32, 66 and 95--See Schultz column 30, lines 31-34.

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- b) Claims 7, 8, 69, 70, 97 and 98--See Schultz columns 34 and 35.
- c) Claims 9, 71 and 99--See Schultz column 20, lines 19-22.
- d) Claims 10-12, 37-39, 72-74, and 100-102--See Schultz column 15, line 45 to column 16, line 39.
- e) Claims 14, 76 and 104--See Schultz column 9, lines 22-23.
- f) Claims 15, 42, 77 and 105--See Schultz Figures 3H, 3I, 5D, 5E, 5F, 5G, 5H, and 5I and their corresponding description in the specification of Schultz.
- g) Claims 16, 17, 78, 79, 106 and 107--See Schultz column 17, lines 14-17.
- h) Claims 19-22, 81-84, and 108-112--See Schultz columns 6 and 7.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 43, 45 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta et al.

Gupta, described in item no. 4 supra, does not specifically disclose analyzing particles as they exit the reactor, and does not specifically disclose measuring aerodynamic diameter or magnetic properties. However,

a) Gupta column 9, lines 47-50 indicates that online measurements can be taken in the prior art process and that temperature and pressure sensors can be employed "at various locations". Further, it would clearly be seen as beneficial by one of skill in the art to measure properties as soon as possible, e.g. as soon as reacted particles are produced, in order to

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minimize the production of materials with unwanted properties. Thus, to perform measuring or sensing at a location where the particles leave the reactor in Gupta would fall within the purview of the process as disclosed therein.

b) Measuring of size, as done by Gupta, would include measuring aerodynamic diameter as presently claimed. Further, example 5 of Gupta produces coated magnetite particles, and one of ordinary skill in the art would be concerned with the magnetic nature of such a material and would therefore desire to measure magnetic properties in such a material.

Consequently, a prima facie case of obviousness is established between the disclosure of Gupta and the presently claimed invention.

8. Claims 6, 23-30, 33, 43, 45, 47-63, 68, 85-92, 96, and 113-120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz et al.

The Schultz process, described supra, does not specify the amount of variance in concentration, temperature or composition as recited in instant claims 6, 33, 68 or 96, is not specific to the making of the particular classes of materials as recited in instant claims 23-27, 47-63, 85-89, and 113-117, the particle size of claims 28-30, 90-92, or 118-120, continuously analyzing particles as they exit a reactor as in claim 43, or measuring the precise property of claims 45 and 62. These differences are not seen as resulting in a patentable distinction between the prior art process and that presently claimed because:

a) The precise amounts of variance in the processing parameters would depend largely upon the properties desired in the final materials. The numerical values as presently claimed would fall within the purview of the variation in reaction parameters as disclosed in Schultz column 30, lines 17-65.

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b) The making of the types of materials as recited in the instant claims would fall within the general classes of materials as disclosed in columns 6 and 7 of Schultz.

c) With regard to particle size, because the reactants used and the conditions of reaction may be the same in either the prior art or the claimed invention, one of skill in the art would believe that the particle size of the final products would likewise be the same in either instance, absent evidence to the contrary.

d) One important facet of the Schultz process is that arrays of materials can be screened for various properties, i.e. as disclosed in columns 26-28 of Schultz. It would clearly be seen as beneficial by one of skill in the art to perform this screening as soon as possible, e.g. as soon as reacted particles are produced, in order to minimize the production of materials with unwanted properties.

e) The properties of claims 45 and 62 would fall within the "Morphology" category in Table I of Schultz.

Consequently, a prima facie case of obviousness is established between the disclosure of Schultz et al. and the presently claimed invention.

9. Claims 1-5, 13-15, 18-21, 24-27, 31, 40-43, 64-67, 75-77, 80-83, 86-89, 93-95, 103-105, 108-111, and 114-117 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-85 of U.S. Application Serial No. 09/821,848.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '848 application essentially define certain embodiments of the process as set forth in the instant claims, i.e. preferably an embodiment in which the materials produced and analyzed include a layered linear system comprising polymer and/or

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electrocatalyst materials. The steps of the process as defined in the instant claims are performed in the same order and for the same purpose as in the '848 claims. Because practicing the process according to the '848 claims would necessitate practicing the process of the instant claims, no patentable distinction is seen between the two sets of claims.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not yet been patented.

10. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Response to Arguments

11. In the July 26, 2004 response, Applicant alleges that the manner in which the processes of Gupta or Schultz operate differs from the continuous or real-time basis as defined in the instant claims, that Gupta in fact suggests not varying a reaction condition as opposed to the claimed processes which require varying conditions, that Schultz does not disclose measuring a property of reacted particles while the particles are dispersed in a carrier gas as required by instant claim 44, that Schultz does not suggest changing the precursor composition or concentration during fabrication as required by

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instant claims 48 or 93, and/or that Schultz does not disclose making pharmaceutical particles as required by instant claim 61. Applicant's arguments have been carefully considered, but are not persuasive of patentability because:

a) With regard to the continuous or real time limitations, the mere fact that one must at some point alter some characteristic of the prior art process in order to achieve some differentiation in the reacted products does not indicate that the process would not be, for all practical purposes, continuous. While the prior art does make "batches" of various products, one clearly need not make any significant interruption of the process to change some aspect of the product. For example, Gupta column 6, especially at lines 15 and 42, indicates that changing vibration intensity or power to the vibrating source will result in a difference in particle size, and such a change can clearly be accomplished while the process is in progress, i.e. on a real-time basis.

b) Although Gupta et al. for their purposes desire narrow particle size ranges and thus in their examples would not vary conditions, column 6 of Gupta indicates that varying of conditions in order to achieve a difference in certain characteristics of the final products is easily accomplished in the prior art.

c) Measurement while the particles would be dispersed in a gas is at least suggested by Schultz column 23, lines 1-48.

d) A change in concentration or composition is at least suggested by Schultz column 22, lines 17-37.

e) While Schultz does not use the word "pharmaceutical", Schultz column 31, line 29 indicates that the prior art process is useful for making organometallic materials or organic polymers. Thus, to make a composition which would possess a pharmaceutically useful effect would be within the purview of one of skill in the art, practicing the Schultz et al. process.

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12. Applicant indicates, with respect to the obviousness-type double patenting rejection, that a Terminal Disclaimer will be filed as soon as the claims in the opposing case are otherwise allowable. Once a properly filed Disclaimer is received in the present application, this rejection will be withdrawn.

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (571) 272-1252. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (571) 272-1244. Effective October 1, 2003, all patent application related correspondence transmitted by facsimile must be directed to the central facsimile number, (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GPW
October 28, 2004



GEORGE WYSZOMIERSKI
PRIMARY EXAMINER